

**CARDIAC ARRHYTHMIA UPDATE**

## Hybrid Approach to Atrial Fibrillation Ablation

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### INTRODUCTION

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Sequential surgical thoracoscopic and electrophysiological (EP) ablation is gaining popularity as a novel approach for the treatment of patients with stand-alone, persistent and long standing persistent atrial fibrillation (AF). We therefore sought to investigate the safety, efficacy and durability of such combined, hybrid surgical-transcatheter approach.

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### METHODS

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Seventy-five (75) patients with persistent (n=10) and long standing persistent (n=65) stand-alone AF were prospectively enrolled; the hybrid strategy consisted of a surgical endoscopic ablation followed by a transcatheter procedure.

Patients underwent first a monolateral closed-chest epicardial ablation with isolation of the pulmonary veins and posterior left atrium (“box” lesion set); at least 30 days after surgery, an EP evaluation was performed to investigate the maintenance of surgical isolation and additional lesions were performed in case of documented AF recurrence.

Mean age was  $63.3 \pm 9.2$  years, mean left atrial (LA) dimension as  $49.2 \pm 5.6$  mm and median duration of AF was 48 months. Rhythm outcomes were monitored by means of a continuous loop recorder implanted at the time of surgery.

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### RESULTS

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Thoracoscopic ablation was successfully completed in all cases except in 1 patient, in whom conversion to sternotomy was required because of bleeding. No complications occurred during the post-operative stay. At the end of surgical ablation, exit block was documented in all cases, while entrance block was achieved in 93.3% of cases (70/75). At mean interval of  $44 \pm 2$  days after surgery, EP evaluation confirmed persistence of bidirectional block in 90.7% (68/75) of cases and occurrence of pulmonary vein reconstructions in 9.3% (7/75) of patients. Additional lesions were performed in 44% of cases (33/75). Early and late incidence of left atrial flutter was 0%.

At median follow-up time of 28 months, 91.1% of patients are in stable sinus rhythm.

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**CONCLUSIONS**

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The sequential staged hybrid approach proved to be safe and effective in patients with persistent and long standing per-

sistent AF with excellent and durable clinical outcomes. The implantable loop recorder documented incremental benefits in sinus rhythm restoration up to 28 months post-operatively.